

Agenda for the International Metrology Interoperability Summit at  
NIST in Gaithersburg, Maryland, USA  
March 28 – 30, 2006

First Day (Tuesday, 28 March, 9AM - 5PM) in the Green Auditorium:

8:15AM: 1<sup>st</sup> shuttle to NIST (for speakers) departs from the Hilton Hotel

8:30AM: Continental breakfast and networking; Speakers arrive to load presentations onto laptop

8:40AM: 2<sup>nd</sup> shuttle to NIST departs from the Hilton Hotel

9:00AM: Welcome: John Horst (5 min)

9:05AM: Statement of Summit Objectives: Contract facilitator (5 min)

9:10AM: High-Level Process Map for Dimensional Metrology: Curtis Brown (15 min)

9:25AM: Realizing Interoperability through a Successful Standards Development Process: John Horst (15 min)

9:40AM: Metrology Interoperability Enabling Organizations (10 min each: 50 minutes total)

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|---|-----------|--------------|
| · | AIAG MIPT | Bob Waite    |
| · | CMSC      | Ron Hicks    |
| · | DMSC      | Curtis Brown |
| · | EDUG      | Lutz Karras  |
| · | I++ Group | Josef Resch  |

10:30AM: Break (15 min)

10:45AM: Metrology Interoperability Enabling Technologies (15 min each: 2 hours total)

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|---|------------------------|---------------|
| · | STEP AP203e2           | Tom Hendrix   |
| · | STEP AP219             | Len Slovensky |
| · | DMIS                   | Bob Stone     |
| · | DML                    | Joe Schafer   |
| · | I++/DME                | Josef Resch   |
| · | I++/DMIS harmonization | Lutz Karras   |
| · | Quality Data           | John Coski    |

1:00PM: Lunch in the NIST cafeteria (included with registration)

2:00PM: Metrology Interoperability Perspectives (20 min each: 2 hours 40 minutes total)

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|---|------------------|------------|
| · | Daimler Chrysler | Bob Waite  |
| · | Daimler Chrysler | John Coski |
| · | Lockheed-Martin  | Ray Admire |
| · | Northrop Grumman | Ron Hicks  |

3:20PM: Break (15 min)

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|---|----------|------------------|
| · | Boeing   | Gregory Smith    |
| · | Intel    | Rob Edgeworth    |
| · | Zeiss    | Richard Knebel   |
| · | Renishaw | Stephen Anderson |

4:45PM: Instructions for Wednesday sessions by the contract facilitator

5:00PM: Adjourn and networking

5:30PM: 1<sup>st</sup> shuttle to the Hilton Hotel departs from NIST

6:00PM: 2<sup>nd</sup> shuttle to the Hilton Hotel departs from NIST

6:30PM: Banquet at the Gaithersburg Hilton Hotel

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Second Day (Wednesday, 29 March, 9AM - 5PM) at various locations; initially meet in Lecture Room A

8:15AM: 1<sup>st</sup> shuttle to NIST departs from the Hilton Hotel

8:30AM: Continental breakfast and networking

8:40AM: 2<sup>nd</sup> shuttle to NIST departs from the Hilton Hotel

9:00AM: Candidate Concurrent Session Topics: With breaks at 10:30AM and 3:20PM and lunch (in the NIST cafeteria, included with registration) at 1:00PM

All sessions are to 1) develop an activity diagram in their topic area, 2) identify the activities of "pain" caused by a lack of interoperability in their topic area, 3) associate some measure of actual cost to these areas of pain, 4) identify where and how non-CNC CMMs fit into the current standards landscape, 5) identify any technical research, study, or activity that needs to be done to realize an interoperable solution, and 6) identify any organizational changes that will need to occur to facilitate an interoperable solution.

Session #1: Product Definition: The dimensional metrology community's challenge for an interoperable solution here is to express the semantics of standards like Y14.5 formally to allow computer software to encode and decode this information correctly and unambiguously for everything that inspectors need to do. There are and have been several efforts in this area, such as STEP AP 203 edition 2 and AP219. However, all current integrated solutions in this domain (CAD+GD&T to inspection process planning) use marketed products that are proprietary, and typically closed and proprietary. Another important issue is how to get serious support and involvement with CAD vendors, for our relatively small community.

Session #2: Inspection Process Definition: We are now seeing a market trend users increasingly "program" a CMM through a more or less graphical interface in which inspection planning information is applied to the CAD model with GD&T and the lower level inspection plan and execution are generated more or less automatically, all within the same software package. Should we expect that there will cease to be distinct products between the Process Definition function and the Process Execution function, obviating the need for open, non-proprietary standards like DMIS at this interface, or will the community continue to require interoperability at this interface and require such standards?

Session #3: Process Execution: For CNC CMMs, the I++ DME specification is rising in popularity for the interface between the execution software and the CMM controller. Good work has been done harmonize I++ DME with DMIS, though probably some more work is still required. A key issue outstanding on this interface is how non-CNC CMMs (e.g., laser trackers, articulated arm CMMs) can define open, non-proprietary interface solutions.

Session #4: Analysis & Reporting of Quality Data: There has been a gratifying amount of activity in this area, both with open, proprietary solutions and new open, non-proprietary solutions. Challenges here include spreading the word about just what is currently happening, getting consensus on an interoperable solution, and creating as broad a solution as possible that provides a clear and cost-effective path from current, typically proprietary, solutions.

Our current plan is to have NIST staff facilitate and act as scribes for the sessions.

5:00PM: Adjourn and networking

5:30PM: 1<sup>st</sup> shuttle to the Hilton Hotel departs from NIST

6:00PM: 2<sup>nd</sup> shuttle to the Hilton Hotel departs from NIST

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Third Day (Thursday, 30 March, 9AM - 3PM): With a break at 10:30AM and lunch at 1:00PM

8:15AM: 1<sup>st</sup> shuttle to NIST departs from the Hilton Hotel

8:30AM: Continental breakfast and networking;

8:40AM: 2<sup>nd</sup> shuttle to NIST departs from the Hilton Hotel

9:00AM: Report on Individual Session Results and Develop Overall Technology Roadmap

3:00PM Adjourn

3:15PM: Shuttle to the Hilton Hotel departs from NIST